UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,162	01/02/2002	Doron Orenstien	42390P10918	7820

			EXAMINER
8791	7590	02/04/2005	LAU, TUNG S

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ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/038,162	ORENSTIEN ET AL.
	Examiner	Art Unit
	Tung S Lau	2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 December 2004</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>28-46</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>28-46</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
patent by another filed in the United States before the invention by the applicant for patent, except that an
international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
subsection of an application filed in the United States only if the international application designated the United
States and was published under Article 21(2) of such treaty in the English language.

Claims 28-40 are rejected under 35 U.S.C. 102(e) as being anticipated by

Gunther et al. (U.S. Patent 6,789,037).

Regarding claim 28:

Gunther discloses an apparatus comprising: a first counter to count a number of

times a first functional unit of the apparatus is activated (Col. 7-8, Lines 43-51), a

processing unit to apply a mathematical function to yield a deterministic estimate

of an overall power consumption, the mathematical function to accept inputs

including a value from the first counter (Col. 7-8, Lines 43-51, fig. 3, unit 260,

220, 4, unit 230, 236, 5, 6).

Regarding claim 35:

Gunther discloses a method comprising: counting a number of times a first

functional unit of an integrated circuit is activated and applying a mathematical

function to generate a deterministic estimate of an overall power utilization of the

integrated circuit (Col. 7-8, Lines 43-51), the mathematical function accepting as

an input the number of times the first functional unit was activated (Col. 7-8,

Lines 43-51, fig. 3, unit 260, 220, 4, unit 230, 236, 5, 6).

Regarding claim 29, Gunther further discloses a first weighting factor is

associated with the first counter; a second counter having a second weighting

factor is provided, the second counter to count a number of times a second

functional unit of the apparatus is activated', and the mathematical function

accepts as additional inputs the first weighting factor, the second weighting factor

and a value from the second counter (Col. 7-8, Lines 43-51, fig. 3, unit 260, 220,

4, unit 230, 236, 5, 6); Regarding claim 30, Gunther further discloses as

additional inputs an operating voltage level of the apparatus and a current clock

frequency of the apparatus (fig. 4, unit 226, 224, fig. 6, unit 430, 460, 470);

Regarding claim 31, Gunther further discloses at least one throttle to alter the

overall power consumption of the apparatus, wherein the at least one throttle is

activated if the deterministic estimate of an overall power consumption exceeds a

first threshold power level (fig. 6, unit 410, 430, 470, fig. 5), and the at least one

throttle is deactivated if the deterministic estimate of an overall power

consumption falls below a second threshold power level (fig. 5); Regarding claim

32, Gunther further discloses the first threshold power level and the second

threshold power level are the same (fig. 5, Col. 7-8, Lines 43-39); Regarding

claims 33, 40, Gunther further discloses the first functional unit is one of a

floating point unit, a cache unit (Col. 4, Lines 26-39) , and an instruction decoding

unit (fig. 2, unit 140); claim 34, Gunther further discloses the mathematical function accepts as an additional input at least one previous deterministic power consumption estimate (Col. 4, Lines 26-49); Regarding claim 36, Gunther further discloses adjusting the number of times the first function unit was activated by a first scaling factor; counting a number of times a second functional unit of an integrated circuit is activated, adjusting the number of times the second functional unit was activated by a second scaling factor, and supplying the adjusted number of times the second functional unit was activated as an additional input to the mathematical function (Col. 7-8, Lines 44-39, Col. 4, Lines 16-49); Regarding claims 37, Gunther further discloses supplying an operating voltage level and a current clock frequency of the integrated circuit as additional inputs to the mathematical function (Col. 8, Lines 9-39);); Regarding claim 38, Gunther further discloses educing the operating voltage level of the integrated circuit if the estimate pf the overall power utilization exceeds a first threshold, and increasing the operating voltage level of the integrated circuit if the estimate of the overall power utilization falls below a second threshold (Col. 7-8, Lines 43-39, fig. 5, 6, unit 410, 430, 460); Regarding claim 39, Gunther further discloses reducing the clock frequency of the integrated circuit if the estimate of the overall power utilization exceeds a first threshold, and increasing the clock frequency of the integrated circuit if the estimate of the overall power utilization falls below a second threshold (Col. 2, Lines 24-38, Col. 7-8, Lines 43-39, fig. 5, 6, unit 410, 430, 460).

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 41-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Mittal

et al. (U.S. Patent 5,719,800).

Regarding claim 41:

Mittal discloses a machine-readable medium containing instructions that, when

executed by a machine, cause the machine to perform operations comprising:

counting a number of times a first functional unit of the machine is activated (fig.

2, unit 205), and applying a mathematical function to generate a deterministic

estimate of an overall power utilization of the machine (fig. 5, unit 503, Col. 1,

Lines 28-67) the mathematical function accepting as an input the number of

times the first functional unit was activated (fig. 4, unit 308, 309).

Regarding claim 42, Mittal further discloses adjusting the number of times the

first function unit was activated by a first scaling factor; counting a number of

times a second functional unit of the machine is activated; adjusting the number

of times the second functional unit of the machine was activated by a second

weighting factor; and incorporating the adjusted number of times the second

functional unit was activated into the estimate of the overall power utilization (fig. 4, unit 308, 309, 310, 312, 314); Regarding claim 43, Mittal further discloses incorporating an operating voltage level of the machine and a current clock frequency of the machine into the estimate of the overall power utilization (Col. 1, Lines 28-67, Col. 3, Lines 4-45); Regarding claim 44, Mittal further discloses averaging power (Col. 3, Lines 4-35); Regarding claim 45, Mittal further discloses Reduce/ increase voltage level compare to voltage threshold (fig. 4, unit 306, 310, abstract); Regarding claim 46, Mittal further discloses reduce /increase clock frequency (Col. 1, Lines 28- 67).

Response to Arguments

3.   Applicant's arguments filed 12/28/2004 have been fully considered but they are not persuasive.

A. Applicant argues in the lengthy arguments that the prior art does not show the 'deterministic, is "a system whose time evolution can be predicted exactly"'. Reminds to the applicants that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification." Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). While the meaning of claims of issued patents are interpreted in light of the specification,

prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allowed. This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). In Merriam_Webster Online Dictionary Shows that 'deterministic, "is a theory or doctrine that acts of the will, occurrences in nature, or social or psychological phenomena are causally determined by preceding events or natural laws"'. Gunther discloses 'a theory or doctrine that acts of the will, occurrences in nature, or social or psychological phenomena are causally determined by preceding events or natural laws' in Col. 7-8, Lines 43-51, fig. 3, unit 260, 220, 4, unit 230, 236, 5, 6.

B. Applicant continues to argue in the lengthy arguments that the prior art does not show the ' specific signal or digital value that estimated an overall power consumption'; Gunther discloses ' specific signal or digital value that estimated an overall power consumption' in fig. 5, and Col. 1-2, Lines 35-39).

C. Applicant continues to argue in the lengthy arguments that the prior art does not show the 'machine-readable medium containing instruction to perform the estimation'. Mittal discloses 'machine-readable medium containing instruction to perform the estimation' in Col. 3, Lines 4-50, where the system is clearly implemented in a software environment.

D. Applicant continues to argue in the lengthy arguments that the prior art does not show the 'mathematical function to generate a deterministic estimate of an overall utilization of the machine' . Mittal discloses 'mathematical function to generate a deterministic estimate of an overall utilization of the machine' in fig. 1b, unit 101, 104, 102, Col. 3, Lines 3-50, Col. 6-7, Lines 5-19.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

John Barlow can be reached on 571-272-2269. The fax phone numbers for the

organization where this application or proceeding is assigned is 703-872-9306

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free).

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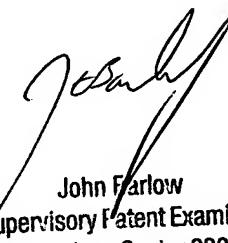
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